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AUTHOR Heitmann, Helen M.
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ABSTRACT

Instructions are given for developing and using mastery-based learning modules for individualizing instruction in physical education. Following a rationale for using individualized instruction in physical education, guidelines are offered for designing learning modules which include four parts: statement of learning objectives (purpose); delivery system (information input); transactions (practice); and terminal objective (evaluation). Instructions are also offered for diagnosing student skills in order to determine which modules to select, for displaying the modules, and for recording student performance. Two sample modules are included: performing forehand ground strokes (tennis) and having students develop and perform a target game for eye-hand coordination. (DC)

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Operational Procedures for Implementing Mastery Learning in Physical Education

Helen M. Heitmann, Professor
Department of Physical Education
University of Illinois at Chicago, 60680

Because students vary in their abilities, achievements and interests, one common lesson in which all students must do the same thing can rarely attend to each student's needs. This is true for all learning, but it is further compounded in physical education because both mental differences and diverse physical components come into play.

All students have a need for developmental activities which will enhance their coordination, physical fitness, perceptual-motor ability and recreational competency. Since movement is required for all life pursuits, it is imperative that all students have basic skills and adequate strength and endurance to perform life activities with comfort and efficiency.

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As in all learning experiences, individual talents or interests may cause some students to excel and others to be average. Each child comes with his or her own achievement levels and aspirations. Thus, individualized instructional environments can provide options to accommodate the unique way a child gains and processes information and practices the skill. Evaluation should be in terms of the student's own gain measured against appropriate standards.

In physical education students can work on tasks independently of others or in interaction with others. These tasks can be precisely prescribed, where the student is to perform by specific criteria or form, or the tasks can be of a discovery nature involving either problem solving or creativity. In either case, the process of individualizing necessitates diagnosing each student, conferring with him/her as to personal goals, and prescribing learning experiences which will help the student reach them. Prior to practicing, the student should know the goals and how they will be evaluated.

LEARNING MODULES

Learning Modules can be designed which enable the student to gain information and select practice experiences which will help in attaining the goals. Such modules can help students read and follow directions and allow them to proceed at their own pace.

Learning modules can be prepared prior to the Unit and should provide flexibility in how the student may attain the goals. The format of the module should include four components:

1. Statement of Learning Objectives (Purpose)
2. Delivery System (Information Input)
3. Transactions (Practice)
4. Terminal Objective (Evaluation)

Delivery System

The Delivery System or input information, which is termed "Learn by" on the second sample module below, should include things students can read, listen to, observe or discuss. It can include books, posters, and oral explanation by the teacher or another student, an audio tape or sound-on-page, and/or a demonstration or film. Not all students need opt for all modes. With these aids available, the student can return to the information source whenever he/she needs reinforcement about the subject.

Transactions

The transactions or practice should give the student the opportunity to apply the information. It should have several ways for students to practice so they can choose various tasks to accomplish the goal. The transactions can be self-contained or require interaction in which the student practices with one or more students. Some can be problem-solving or creative transactions.

Assessment

The assessment goal, or what is termed in the sample modules "Prove by," should be within the student's capability of reaching. One can differentiate the standard of performance by establishing terminal behavioral objectives.

Certain basic or fundamental skills should require full mastery, while other enrichment skills can have either average or excellent standards of performance. The child can select the level he/she wishes according to his/her physical potential and interest in the skill.

Diagnosis for Instruction

Once the learning modules are prepared for the unit, the teacher can diagnose the students as to their needs and ability. This can be as simple as asking them if they can do certain skills or as sophisticated as testing them. After the diagnosis, a conference with individual or small groups of students can help them select component skills on which they will need to work.

As the student selects learning modules and begins to work on them, the teacher is free to give individual help. It is imperative, therefore, that the learning modules should be written in language students can readily understand. It can be on poster board placed at appropriate places in the room so several students can read it, or it can be on individual sheets of paper which each student can take.

Recording goal performance can occur on a chart corresponding to each module. This eliminates the need for paper and pencils in the room. Some skills can be attested to by the student, others by a partner. Skills of a more complex or crucial nature can be verified by the teacher. Recording the skill, fitness and game accomplishments of each student can give a profile of each individual's progress and can highlight those who need additional work.

Application of Skills

As skills are mastered they should be integrated into a game or used in a utilitarian or creative way. Balance should be insured between learning a sequence of skills and integrating them for a specific purpose.

EXAMPLE MODULES

The following are examples of learning modules used to help individualize instruction. They suggest possible format and content. Utilizing learning modules can help students learn the process of skill and fitness development and assist in teaching each to accept responsibility for his/her learning. For the younger or less skilled student, modules should be short and the skill goal simple so that success is quick in coming.

This process has been field tested at most grade levels by this writer as well as other physical education teachers. In all cases, skill gains equaled that made in traditional teaching and were surpassed once students became familiar with the individualized system. Further explanation can be found in my book Physical Education Instructional Techniques: An Individualized Humanistic Approach, co-authored with Marian Kneer. It was published in 1976 by Prentice Hall, Inc., in Englewood Cliffs, NJ.

EXAMPLE LEARNING MODULE #1

Forehand Ground Stroke
(6 points)

Student _____ Date _____

Learning Objective: (Purpose)

The student will be able to move into position for a forehand stroke and return it in a trajectory within 3' of the net and landing within 3' of the baseline.

Delivery System: (Learn By)	Attempted	Completed
1. Study: Advanced Tennis p. 1-11		
2. View Loop Films		
3. Attend lecture/demonstration		

Transaction: (Practice)

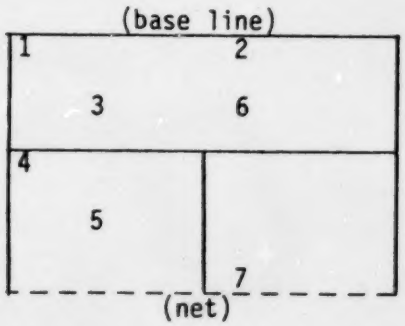
1. Drop a ball to yourself and, using a forehand drive, place the ball within 3' of the top of the net and have it land within 3' of the baseline.

2. Repeat until velocity is strong and the balls are accurately placed.

3. Have a partner throw the balls to various places on the court. Return them within 3' of the net to designated areas of opponent's court.

Assessment: (Prove By)

Identify an area 3' from baseline as the target area. Have partner throw balls with some speed to spots on your court.



Return the balls using good footwork and forehand ground stroke form under a rope 3' above net with ball bouncing within 3' of the baseline.

Testimonial _____ Date _____
Confirmer

EXAMPLE LEARNING MODULE #2

Integrating Divergent and Convergent Problem-Solving; Eye-Hand Coordination; Angles of Rebound and Trajectory.

Name _____ Date _____

Learner Objective: (Purpose)

The student will be able to devise a target game for eye-hand coordination and perform the skills with accuracy and technique.

Learn by:	Accomplished? Yes	No
1. Study rules of games to answer these questions:		
a. What common elements do all rules have?		
b. Why are there rules?		
2. Study how you make all trials the same for everyone.		

Practice by:

1. Using a ball and two hoops, devise a game where the ball is thrown through the hoops.
2. Devise a target game where the ball bounces in one hoop and through the other.
3. Practice until you can accurately perform the target game.
4. Can you invent a target game in which the ball bounces through a loop placed horizontally, and then passes through two or more hoops held vertically?

Prove by: You will be able to invent a target-game that conforms to rules and directions and you can perform the actions accurately, judging angles of rebound and trajectory at 90 percent accuracy.

_____

_____

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_____ _____ _____

Partners Attested by Date completed